NOV. VOL. 2

San Antonio Radio Club

1974 No.1

BULL-ETIN

President	- Bill Way	WA5QHG
Vice Pres.	- Clay Laster	W5ZPV
Secretary	- Larry Humlicek	WA5PAF
Treasurer	- Frank Box	WA5VFM
Sgt-at-Arms	- Michael Rittimann	WN5GAI

Meets first and third Fridays at 7:30 P.M. at the Red Cross Building, 90 Brees St. ALL who have an interest in amateur radio are cordially invited to attend.

Bull-etin Editor, Dean Davis W5BGE Asst. Ed., Maybelle Davis
Circulation Mgr., Bob Via WB5FDT

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Letters to the editor should be addressed to 1518 Santa Anna, San Antonio, Texas 78201.

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By The WAY

By WA5QHG Bill Way

Many thanks for the vote of confidence bestowed by re electing me to the office of president. I sincerely feel that, with your cooperation, we will finally reach that goal of 200 members. Keep in mind that dues represent the largest chunk of financial support for YOUR club. When you convince another ham to join SARC, YOUR money goes twice as far! That sure fights inflation!

Many times we have heard, "I cannot be active because .....(some excuse)... therefore I cannot join." However, it is not absolutely necessary for a prospective member to be active in ALL club functions. Can you imagine 100% attendance at a meeting? JUST by belonging to SARC, this person is supporting amateur radio in the San Antonio area and....(the excuse)..... probably will not keep him or her from enjoying Field Day, the Christmas Party, etc. So, grab their dues, get them in as members. We need them, and they can enjoy what we have.

Clay W5ZPV, our vice president and program chairman, has promised us some real HOT programs for this coming year, so-o-o don't miss them!

73, CUL, Bill WA5QHG.

SARC'S 1974 PROGRAM REVIEW By W5ZPV

One of the most important aspects of San Antonio Radio Club is technical exchange of information. Amateur radio has contributed immensely to progress of most all phases of electronics. We want San Antonio Radio Club to continue this great tradition. We need your suggestions for technical talks. If you have completed a new final or constructed a new antenna or have researched some digital circuits, or any other pet project. Please call me at 344-7356.

At the Friday Oct.18 meeting, Floyd Roland W5JKU gave an excellent talk on integrated cituits, dealing with the use of your junk box transistors and how to get info on them, also info on "breadboard" use.

Some of the future technical talks that have been scheduled are:

November--Corky WB5CIT will present a talk on 450 Mhz. repeaters & use.
December--Cal W5LFM will talk on Propagation.
January --OLD TIMERS' NITE! On Jan. 17 an Old Timers' Nite is planned.
February --Roy W5EYB will speak on linear amplifiers--construction & use.

A Swap Fest is also in the planning, plus a possible presentation by the Alamo DX Amigos and a program on Slow Scan operation in this area. Again, let us hear from you! We want to know what you would like to hear for a program!!

73, Clay W5ZPV, Program Chairman.

Technical Topics

By W5LFM Cal Graf

These comments are being written while on a business trip to London. Other than grounding the earth, valving the tube, high tensioning the voltage, soliciting the lawyer, and putting bonnets on their lorries, the G folks are pretty much like the W and K folks. However, their "tube" is the underground (the subway, not the people) and the TV is the "tele". And while all this was going on, the American Cup defender, Courageous, had a 16-kilobit memory mini-computer installed aboard ship. It was equipped to change 110 volt AC to 36 volt DC operation. The Nova 1200, provided by the Data General Corp., performed navigation calculations needed to obtain the best speed from the craft. The SARC field-day gang could really use a mini-computer to tell it which contact it should make next in order to pick up the most points.

And while the SARC Bull-etin has been talking all along about the wrist TV which Dick Tracy has been using for years, along comes a wrist calculator which might help the field-day boys. This device might be employed by the 20-meter CW "beer, pop, and key clique club" in order to help Les Essington, W5BE, and Gene Jank W5EJT, come up with more points. The wrist calculator is the first one to be announced in the world and is worn on the wrist while in operation. The Fondiller Corp. of New York, N.Y., announced the development of a 40-function, nine-digit readout electronic calculator and digital watch--all contained in a package 1 1/2 inches square and less than 1/2 inch thick.

The calculator is operated by 20 buttons and twice the number of functions is obtained by employing a shift key like a typewriter. When the unit is not calculating, the nine-digit LED display on the $500 device will tell time. The clock makes use of a quartz crystal oscillator.

At a recent SARC meeting, we had the fortune to listen to several members of the Dallas Amateur Radio Club tell what they did to promote club attendance. They made liberal use of ads in the newspapers which give a phone number to contact. When this number is called, club announcements are made, much as the time and temperature is given when you dial 226-3232 in San Antonio. This approach might be used by the SARC, including the latest DX stations which are coming in, when, and operating frequency.

Speaking of DX, if you want to know the exact time and propagation conditions, give a listen to WWV time announcements--not over the air--but by phone. Dial 652-4740 and you'll hear WWV (Ft. Collins, Colo.) or WWVH (Hawaii). This is being put on the land line by Randolph AFB and is a local call only. With this service, you can set your digital clock to a matter of milliseconds. It takes a nominal 5 milliseconds for a time tick to reach San Antonio from WWV via one-hop F layer.

For now, regards and Good Luck. W5LFM. Cal Graf.

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SARC CODE AND THEORY CLASS

The San Antonio Radio Club is sponsoring a Novice Code and Theory Class at the Jewish Community Center, 103 W. Rampart, on Tuesdays and Thursdays at 7-9 p.m.

George James WB5LDN and Bob Wheaton W5PKK are the instructors.

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FOR SALE -- Model 19 Teletype, good condition, Larry WA5PAF, 341 8092.

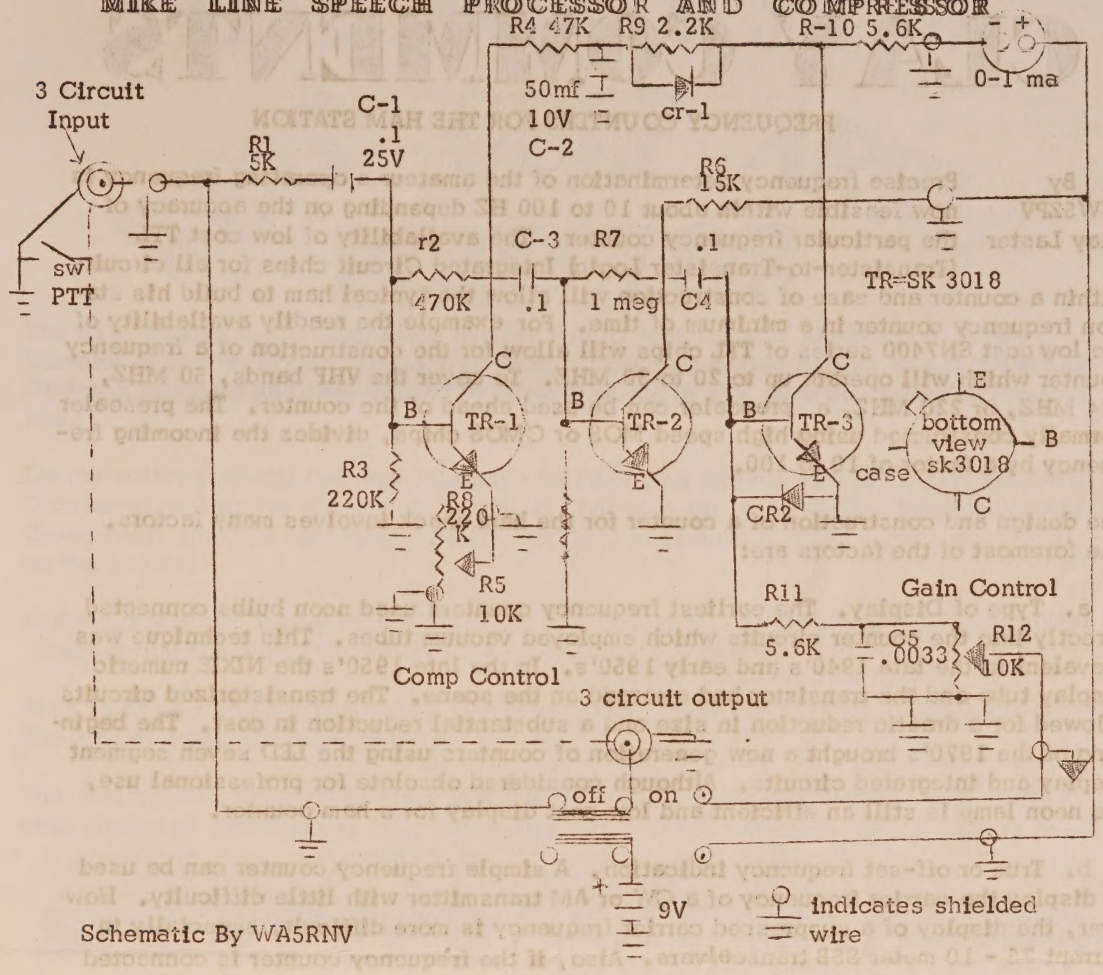
FOR SALE --TA33 Jr., Need prop pitch rotator, Charlie WN5LOW, 696 0421

FOR SALE -- Reasonable, 2 el 15 M beam, 4 el 15 M beam, Adam WB5GFE, 349 4068.

FOR SALE -- General Electric pre prog line crystals for 449.0 Mhz trans and 444.0 Mhz. AFC Rec will sell at cost. Corky WB5CIT, 341 8006.

FOR SALE -- 2 M FM transceiver, Comcraft CTR 144 tunable receiver, 144-148 Mhz. Crystal and VFO transmit, all solid state, 12 V DC/110 V AC. Also transmits and receives AM. Reviewed QST '73. Bob WB5FDT 696 2754.

MIKE LINE SPEECH PROCESSOR AND COMPRESSOR



Schematic By WA5RNV

Designed by W8NMY--Built by WA5RNV and W5OI

Parts List

1- 4x2 1/4x5 Metal box, or equivalent, or what you have in the junk box
1-DPDT Slide switch, or equivalent
1- 0-1 Ma Meter. It may be necessary to shunt the meter with a 50 ohm resistor.
Some transistors are more sensative than others (have more gain).
C-1, 3 & 4 are .1 Mfd. 25 volts, disc
C-2--50 Mfd, 10 volts, elec.
C-5--.0033, Lo volt disc
R-5 and R-12--10 K linear tapir
All other resistors as marked on schematic are 1/2 watt.
1-9V midget battery
1-battery holder clip
1-3 circuit jack, or equivalent depends on what is available
1-3 circuit plug, or equivalent depends on what is available
CR-1 & CR-2--IN34A diodes
TR-1, 2 & 3, RCA 3013. Electrotex has all parts.

Compression control is set to start 9000 Ohms center to ground.
Gain Control is set to start 1500 Ohms center to ground.
With gain control set at approximately 1500 Ohms to ground, reduce exciter or transceiver mike gain control until ALC indicator reads 150 to 200% higher than normal with normal speech and distance to mike. This will usually occur at 75% of transceiver's control.

Compression control is set approximately 9000 Ohms center to ground, usually will be ok.

Two of these units are now on the air one at WA5RNV's and one at W5OI's.

It is recommended that a blower be used in exciter or transceiver if using sweep tubes. Gain is about 10 to 20 DB. 73 George Henderson W5OI.

CLAY COMMENTS

FREQUENCY COUNTERS FOR THE HAM STATION

By W5ZPV Clay Laster

Precise frequency determination of the amateur s operating frequency is now feasible within about 10 to 100 HZ depending on the accuracy of the particular frequency counter. The availability of low cost TTL (Transister-to-Transister Logic) Integrated Circuit chips for all circuits within a counter and ease of construction will allow the typical ham to build his station frequency counter in a minimum of time. For example the readily availability of the low cost SN7400 series of TTL chips will allow for the construction of a frequency counter which will operate up to 20 to 30 MHZ. To cover the VHF bands, 50 MHZ, 144 MHZ, or 220 MHZ, a presealer can be used ahead of the counter. The presealer normally constructed using high speed MOS or CMOS chips, divides the incoming frequency by a factor of 10 to 100.

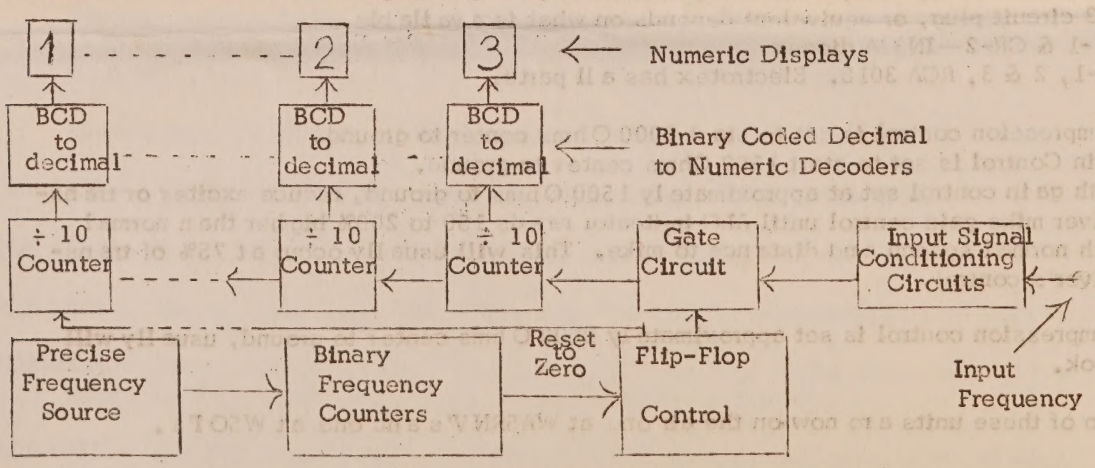
The design and construction of a counter for the ham shack involves many factors. The foremost of the factors are:

a. Type of Display. The earliest frequency counters used neon bulbs connected directly into the counter circuits which employed vacuum tubes. This technique was prevalent in the late 1940's and early 1950's. In the late 1950's the NIXIE numeric display tube and the transistor had emerged on the scene. The transistorized circuits allowed for a drastic reduction in size and a substantial reduction in cost. The beginning of the 1970's brought a new generation of counters using the LED seven segment display and integrated circuits. Although considered obsolete for professional use, the neon lamp is still an efficient and low cost display for a ham counter.

b. True or off-set frequency indication. A simple frequency counter can be used to display the carrier frequency of a CW or AM transmitter with little difficulty. However, the display of a suppressed carrier frequency is more difficult, especially in current 75 - 10 meter SSB transceivers. Also, if the frequency counter is connected to a receiver, then it can only measure the VFO (variable frequency oscillator) frequency. Thus an off-set frequency correction must be employed to correct for each band.

A block diagram for a typical frequency counter is given in the attached figure. The precise frequency source, normally a crystal oscillator operating in the 1 to 5 MHZ frequency range, is fed into frequency count-down or dividers stages. This provides a very accurate time interval for gating the unknown input frequency into the divide-by-ten counters. The output of each divide-by-ten counter is fed into binary-coded decimal-to-numeric decoder circuits. These circuits, in turn, drive a numeric display showing one of the digits of the frequency being counted. With the exception of the binary frequency counters, each of the blocks is nominally one IC chip. Thus, a handful of chips and a set of 10 neon lamps for each displayed digit constitutes the bulk of the frequency counter.

Succeeding parts of this article will describe each circuit in detail along with printed circuit board layouts for a simple frequency counter for the ham station.



BLOCK DIAGRAM OF TYPICAL FREQUENCY COUNTER

73, Clay W5ZPV.

VOTE FOR W5EYB

WEST GULF ARRL DIRECTOR

The San Antonio Radio Club again invites you to vote for ROY ALBRIGHT W5EYB as Director of the West Gulf Division of ARRL. ARRL has mailed ballots to all West Gulf Division members and they should be in your hands by the time the Bull-etin reaches you.

On the ballot you will find Roy Albright W5EYB of San Antonio and Bill Smith W5TVB of Oklahoma running for West Gulf Director. For vice dir. Jack Gant W5GM, Oklahoma, (incumbent) and Tom Morrison WB5IZN/WA3GBU of Leander, Texas (near Austin) are on the ballot.

Certainly Roy, an active member of SARC and SARO, has represented us well during these trying times and we would like to see him continue.

Jack Gant has been a valuable assistant to Roy, especially in the Oklahoma area They have worked well together.

The San Antonio Radio Club asks that you exercise your right to vote. Regardless of your choice of candidates, it is important that ALL WG Division ARRL members VOTE

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SPLATTER

From all reports the El Paso First Annual Hamfest was a success. Noel Armstrong was chairman. It was well managed and an enjoyable gathering. Featured speaker was our own Roy Albright W5EYB. SCM Art Ross also was on the program. Bob Elmore K5HWN, state MARS director, headed up the army MARS section. Many from New Mexico were included in the estimated 200 who attended. Next year's meeting should be a must to attend..... Tommy Truhardt, a graduate of our recent code and theory class, has taken his General and Advance and passed both!.....John Shean W5LPO has passed his Extra and is expected to be operating CW all over the bands!.....Bob WN5MCW all excited about working a DXpedition in the Netherlands Antilles off the coast of Argentina which was working Novices only on 21 Mhz.....This issue is Vol.6, No.1, which means that this is the first issue in the 6th year of the Bull-etin.... Listening around the frequency one cannot help but wonder why some amateurs, (even the old timers) repeatedly ask the FCC to cite them for violation of the regulations. For instance, we have those who, who from time to time, break in on a conversation without identification--this sure is a fun way to pick up a citation. Even more funny is the ham who answers an unidentified transmission of this nature--he earns a citation also.....Right behind the above joker is the amateur who signs of a QSO with a "W5XYZ-clear." The interpretation of this procedure is, "Give me a citation." While you don't have to identify every other station in a roundtable when you're signing off, you must identify one other station..... Remember: A repeater is actually an extension of your station, so support it with your dues, use it with intelligence and good taste, be ever on the alert to perform as needed in an emergency and, when you no longer have anything to say in a QSO, STOP! Be considerate in heavy "drive time" periods.....All of us might be more successful if we would only follow the good advice we give others.....New FCC regs allow us to operate mobile without logging. This does not permit us to operate without identifying CORRECTLY! Many repeater QSOs are heard where the people in QSO never get each other's call right! de Dean W5BGE

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WANTED--Scanner in the 140 to 150 Mhz. range. Mike Eley, 824 0939.

FOR SALE--HW101, speaker, mobile & AC pws supply, Doug Brooke K5YHX, 602 E. Bee Cave Rd. 327 3114, Austin, Tx.

WANTED--VFO, 15-40-80, to be used on a Globe Chief 90. Also interested in a Novice transceiver. Earl WN5MQO, 924 2789.

STANDING COMMITTEES OF SARC

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Bill WA5QHG Way
Clay W5ZPV Laster
Larry WA5RAF Humlicek
Frank WA5VFM Box

FINANCE
Jim K5UKN Rutledge
Dan W5DUI DeLay
Les W5BE Essington
Gene W5EJT Jank

MEMBERSHIP
Cal W5LFM Graf
Clay W5ZPV Laster
Larry WA5PAF Humliced
Bob WB5FDT Via
Barbara WB5GAH Humlicek

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Joe WA5OMB Gallagher
Charles W5HYX Becker

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Bob W5PKK Wheaton
Gary WA5QJH Corell

W5SC CONTROL
Ivan WA5RNV Mangold
Frank W5QMH Gerwitz
Larry WB5GVD Scott
Corky WB5CIT Sarvis
Aubrey K5MOF Armstrong

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George W5OI Henderson
Clay W5ZPV Laster
Floyd W5JKU Roland
Cliff WB5LSO Wareham

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Bob W5PKK Wheaton
Bill K5PWX Hamrick
Joe WA5DMB Gallagher
Bill WA5QHG Way
Gary WA5QJH Corell
George W5OI Henderson
George W5VPQ Munsch

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Maybelle Davis
Roy W5EYB Albright
Hazel Albright
Bob WB5FDT Via

PUBLIC RELATIONS
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Otto WA5UVE Schneider
George WB5LDN James
Frank W5QMH Gerwitz

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FIELD DAY
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Chris WN5LKQ James
Ruth K5OPT Jank

REFRESHMENTS
Barbara WB5GZH Humlicek
Mike Rittiman

CHRISTMAS PARTY
Dean W5BGE Davis
Chris WN5LKQ James
Frank WA5VFM Box
Jerry W5KLV Connaway

de Bill Way WA5QHG

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ALAMO DX AMIGOS

By W5LPO

The last meeting of the Alamo DX Amigos was held in the home of Danny Weil VP2VB. Giving us a chance to observe first hand equipment used in his world-circling, DXpedition in 1965. The newest member is Corky WB5CIT, who has already started working on his DX CC. Bruce W5OSJ was appointed to furnish to the club info on the CQ World-wide SSB DX Contest, starting Oct. 26.

DX operating for the next month promises to be outstanding. Look for many long path openings to Africa and Indian Ocean areas on 14 Mhz. 21 Mhz. has been and will continue to be wide open, almost worldwide. There have also been frequent openings on 28 Mhz. which encourages us to predict more during next month.

Anyone interested in becoming a DXer will be welcome to attend the club meetings and should contact John W5LPO at 696 1879 for further information.

de John W5LPO, Secretary.

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TEXAS VHF-FM SOCIETY WINTER MEETING

The San Antonio Repeater Organization announces that it will host the Winter Meeting of the Texas VHF-FM Society Feb. 15-16, 1975, at the Sheraton Motor Inn, 1400 Austin Hwy. Dave Crouch WB5LZJ is chairman. Information on program and registration will be mailed at a later date.

CHRISTMAS DINNER DANCE

CQ ALL SA AREA AMATEURS !!
The San Antonio Radio Club Annual Christmas Dinner-Dance will be Sat., Nov. 30 at the Arden Grove Party House, 102 Ninth St. ALL Amateurs & their XYLs, YLs or OMs invited.

TICKETS for Dinner-Dance are $7 per person. High school members & their dates half price.

Social hour, 6 to 7 p.m. Set-ups furnished (BYOB) Dinner will be served at 7 p.m. Menu: tossed salad, steak 8 oz., stuffed potato, spiced apple and ice cream. Dancing 9 till 1 p.m. Music by "Pepe" Rodriguez and his orchestra. Music you'll like!

NOVEMBER 30 1974

SPECIAL DRAWING! A donation to Christmas party fund will entitle you to participate in a special drawing at the Christmas Party. An ICOM IC 22 1 & 10 watt, 22 channel, Tranceiver (94/94, 34/94, 16/76, 22/82, 28/88, 52/52) with Avanti mobile antenna and trunk lid mount will be given away. YOU NEED NOT BE PRESENT TO WIN!! Tickets can be obtained from almost any club member ($1 donation each). Manufacturers suggested retail price $358.08. Everything you need for mobile installation.

Chris James heads up the Decorations Committee!

YOU CAN GET DINNER-DANCE TICKETS FROM:

Bill	WA5QHG	433 5154	Frances	W5KQG	344 5134
Clay	W5ZPV	344 7356	Gene	W5EJT	342 2225
Larry	WA5PAF	341 8092	Bob	W5PKK	695 8430
Frank	WA5VFM	734 5893	Roy	W5EYB	822 7269
Ivan	WA5RNV	826 6515	Dean	W5BGE	735 1622

S. A. Radio Club

ARRL NEWS AND VIEWS FROM THE WEST GULF DIVISION

ATTENTION YL's, YF's, RETIRED, and STUDENTS

With the return to Standard Time on October 27, W1AW will feature increased Code Practice and Bulletins. Code transmissions at 2100 GMT Monday through Friday will include practice at 10, 13, and 15 wpm. This will be followed at 2130 GMT by an official bulletin sent at 18 wpm. Teletype bulletin will be transmitted at 2230 GMT. These additional transmissions might prove to be of considerable benefit to those of us in the West Gulf Division because of the difficulty of hearing W1AW during night-time hours. Also, those who copy the bulletins can assist by making their copy available to clubs, nets, and by rebroadcasting (if suitable power and antenna is available). Too, where permission can be obtained, we can help spread the word by posting W1AW bulletins on the local parts distributors bulletin boards.

KEEPING INFORMED

One of the problems in this busy life of ours is keeping abreast of developments which affect us as radio amateurs. The League does an excellent job of publishing current information. Unfortunately, too many of us read only those portions of QST which cater to our prime interest. However, in these times of rapidly changing regulations I urge all amateurs to pay special attention to the QST Editorial, the page known as League Lines, and the section titled Happenings of the Month. The W1AW bulletins referred to above provide up to the minute information.

QST

Inflation affects QST too! Publication expenses for QST this past quarter were $144,795.63, compared to $108,562.62 for the same quarter last year. An increase of 25%!

FREEBIES

Five excellent pamphlets and several OpAids which ought to be on the operating desk of every active amateur are available from the League at no cost except for postage. According to my postage scale, twelve 13¢ stamps ought to bring you the entire list. These are:

Operating an Amateur Radio Station
Repeater Directory 1974/1975
Net Directory 1974/1975
Members Guide to Amateur Satellites
Public Service Communications
CD Form #3 (Number Sheet, ARRL Numbered Radiograms)
OpAid #4 (Amateur Radio Emergency Corps)
OpAid #5 (DX Operating Code)
OpAid #7 (ARRL Countries List, Revised Edition)
OpAid #8 (Worked All States Award Rules)
OpAid #9B (The Amateur Message Form)
OpAid #13 (Ready Reference Information)
OpAid #14 (Miscellaneous Operating Information)

To order them address: American Radio Relay League, 225 Main St. Newington, Conn., 06111.

DX CONTEST

The 1975 ARRL International DX Contest to be held the 1st and 3d week-ends of Feb and Mar, 1975 will feature several changes in the rules. Details will appear in December issue of QST.

73,

ROY L. ALBRIGHT, W5EYB, Director.